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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,561	01/28/2002	Brian E. Jurezyk	212622	4322

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EXAMINER

KEITH, JACK W

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,561

Applicant(s)

Jurczyk et al

Examiner

Jack Keith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 29, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 28-44, and 68-77 is/are pending in the application.
- 4a) Of the above, claim(s) 1-7, 28-44, 70, 74, 75, and 77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 68, 69, 71-73, and 76 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of invention I, species IB, IBd, IBo, IBq and IBv in Paper No. 6 is acknowledged.

The traversal is on the ground(s) that Invention I and II are directly related since the claim language recites a gaseous target as the neutron generator.

This is not found persuasive. As set forth in the election/restriction requirement of Paper no. 5 inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process (MPEP § 806.05(e)). Here as set forth in Paper no. 5 the process as claimed can be practiced by another materially different apparatus such as neutron generation system employing a solid target. While applicant's invention does employ a gaseous target the process as claimed can be practiced with a solid target. Additionally the apparatus as claimed could be utilized for electron production.

Applicant further traverses the election/restriction requirement of species IBd, IBo, IBq and IBv citing that no claims read on the elected species.

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The examiner disagrees. Claim 69 reads on elected species IBd, claim 73 reads on elected species IBo, claim 72 reads on elected species IBq and claim 68 reads on elected species IBv.

The election/restriction requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-7 and 28-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention/species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

3. Claims 70, 74, 75 and 77 are further withdrawn from consideration by the examiner pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Claim 70 reads on non-elected species IBa and IBc, claim 74 reads on non-elected species IBm, claim 75 reads on non-elected species IBn and claim 77 reads on non-elected species IBp. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

4. An action on the merits to claims 68, 69, 71-73 and 76 follows below.

Information Disclosure Statement

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be

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incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

6. The substitute specification filed 7/29/2003 has been entered.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to provide an adequate written description of the invention and as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

There is no adequate description nor enabling disclosure of a specific operative embodiments of the invention, including: vessel, electrodes, ..., etc., required for one of ordinary skill in the art to make and/or use the invention.

There is no adequate description nor enabling disclosure of the parameters of a specific operative embodiments of the invention, including: the exact size, dimensions and composition (including degree of purity and the impurities present) of each the materials utilized in the operation of the applicants invention; applied current and voltage to electrodes, etc.; assembly of apparatus (i.e. vacuum chamber, shielding, etc.); calibration of instrumentation during and after experiment; etc.

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It is noted that the specification appears to set forth some parameters; however, the specification does not set forth an example of an operative embodiment wherein specific values for each of the parameters are recited.

While applicant may have set forth theoretical concepts, it is well known in the nuclear fusion field that theory and reality have a habit of not coinciding. There is no evidence to indicate applicant has so succeeded where others have failed, in arriving at an operative fusion system, i.e. that he has progressed his system beyond the point of an unproven theory or concept which still requires an undue amount of experimentation to enable the artisan to make and use the inventive system for its indicated purpose. This view is also considered supported by the failure to set forth a full example of the specific parameters of an operative embodiment. One cannot rely on the skill in the art for the selection of the proper quantitative values to present an operative fusion system, since those in the art do not know what these values would be. See Bank v. Rauland Corp., 64 U.S.P.Q. 93; In re Corneil et al, 145 U.S.P.Q. 697.

It is thus considered that the examiner (for the reasons set forth above) has set forth a reasonable and sufficient basis for challenging the adequacy of the disclosure. The statute requires the applicant itself to inform, not to direct others to find out for themselves; In re Gardner et al, 166 U.S.P.Q. 138, In re Scarbrough, 182 U.S.P.Q. 298. Note that the disclosure must enable a person skilled in the art to practice the invention without having to design structure not shown to be readily available in the art; In re Hirsch, 131 U.S.P.Q. 198.

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Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 68, 69, 71-73 and 76 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The reasons that the inventions as disclosed are not enabling are the same as the reasons set forth in section 8 above as to why the specification is objected to and the reasons set forth in section 8 above are accordingly incorporated herein.

11. Claims 68, 69, 71-73 and 76 are rejected under 35 U.S.C. 112, first paragraph, because the best mode contemplated by the inventor has not been disclosed.

The specification appears to set forth the positive results of a nuclear fusion system producing neutrons. Since the specification indicates that the actual nuclear fusion apparatus was constructed and operated, the logical conclusion is that the applicant was aware of all of the system parameters needed to give the indicated positive results but, failed to disclose such said system parameters including the exact size, dimensions and composition (including degree of purity and the impurities present) of each the materials utilized in the operation of the applicants invention; electrodes, applied current and voltages, temperatures, time operated, etc.; assembly of

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apparatus (i.e. vacuum chamber, shielding, etc.); instrumentation calibration during and after experiment; etc.

As indicated in the MPEP 2165 and Union Carbide Corp v. Borg-Warner, 193 U.S.P.Q.

1:

“Failure to disclose the best mode need not rise to the level of active concealment or grossly inequitable conduct in order to support a rejection or invalidate a patent. Where an inventor knows of a specific material that will make possible the successful reproduction of the effects claimed by the patent, but does not disclose it, speaking instead in terms of broad categories, the best mode requirement has not been satisfied” See also, Spectra-Physics v. Coherent, 3 U.S.P.Q. 2d 1737.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 68, 69, 71-73 and 76 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The claims appear to be replete with insufficient antecedent basis. For example, “suppressor surface” in line 8-9 of claim 68 and line 16 of claim 68 the term “background gas”. Such are only exemplary and not intended to be the only terms associated with the insufficient antecedent basis rejection.

Applicant should revise his claims to clarify his inventive concept to be consistent with the disclosed invention.

b. Statements of intended use, field of use or "whereby" clause (see line 7, claim 68) provides language that suggests or makes optional but does not require steps to be performed or

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does not limit the scope of a claim or claim limitation (MPEP § 2106(II,C)). Accordingly, the metes and bound of the claim can not be ascertained by one having ordinary skill in the art.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 68, 69, 71-73 and 76 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirsch et al (3,530,497).

Hirsch (see entire document) sets forth a system for producing nuclear fusion reactions inherently capable of meeting applicant's claimed inventive concept. Particularly, Hirsch sets forth a process wherein voltage differentials between semi-transparent cathode electrodes (20 and 22) and the anode electrode (21) are applied to fusion reaction gas (deuterium) environment. Note that since the voltage differential exists between the semi-transparent cathodes and anode utilizing a deuterium gas in a vacuum environment the claimed high-pressure high-resistance gaseous environment must inherently exist within the Hirsch process. Hirsch further sets forth that this gaseous environment or electron cloud further includes a neutral gas (background gas) which interacts with the electrons and deuterium gas to produce the claimed nuclear fusion

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reactions. While Hirsch is silent on the production of fast-neutral particles (neutrons) Hirsch utilizes the same materials as applicant therefore Hirsch must inherently produce neutrons.

Additionally note that Hirsch sets forth the configuration of the system as being spherical or cylindrical. Hirsch also sets forth an electron management control system (i.e., potential control).

It appears that the wire grid cathodes (20 and 22) of Hirsch read on the claimed baffled electrodes of claim 76.

As to limitations which are considered to be inherent in a reference, note the case law of In re Ludtke, 169 U.S.P.Q. 563; In re Swinehart, 169 U.S.P.Q. 226; In re Fitzgerald, 205 U.S.P.Q. 594; In re Best et al, 195 U.S.P.Q. 430; and In re Brown, 173 U.S.P.Q. 685, 688.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

Conclusion

16. The cited prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

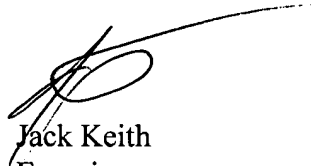
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198.

The fax phone number for the organization where this application or the proceeding is assigned is (703) 305-7687. Fax number for submittals before Final is (703) 872-9326, After Final is (703) 872-9327 and customer service is (703) 872-9325.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



Jack Keith
Examiner,
Art Unit 3641

jwk

October 16, 2003